



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1  
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BOSTON, MA 02109-3912

February 18, 2021

OFFICE OF THE  
REGIONAL ADMINISTRATOR

Michelle Morin, Chief  
Environment Branch for Renewable Energy  
Office of Renewable Energy  
Bureau of Ocean Energy Management  
45600 Woodland Road  
Sterling, Virginia 20166

RE: South Fork Wind Farm (SFWF) and South Fork Export Cable (SFEC) Project Draft  
Environmental Impact Statement (DEIS), CEQ #20210000

Dear Ms. Morin:

The U.S. Environmental Protection Agency (EPA) reviewed the above-referenced document pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. EPA serves as a cooperating agency for the project and in that capacity provided scoping comments to the Bureau of Ocean Energy Management (BOEM) (November 19, 2018), input on the purpose and need and alternatives, and commented on an interagency Administrative Draft of the DEIS (October 30, 2020). EPA appreciates the opportunities BOEM provided for this coordination. In addition to our support of the BOEM NEPA analysis we have coordinated closely with the project applicant pursuant to our air permitting responsibilities for the project.

The South Fork Wind project is proposed in BOEM lease area 0517 in federal waters approximately 19 miles southeast of Block Island, Rhode Island, and 35 miles east of Montauk Point, New York in an area commonly referred to and shown on navigation charts as Cox's Ledge. The lease is held by Deepwater Wind South Fork, LLC (DWSF or the "applicant"). DWSF proposes to develop a commercial scale offshore wind facility comprised of wind turbine generators (WTGs), an offshore substation and a transmission cable extending to land in Suffolk County, New York. The DWSF project will provide power to the Long Island Power Authority and will help the State of New York make progress toward its goal of 9,000 MW of offshore wind generation by 2030. EPA recognizes the clean air benefits of the energy that will be generated by the responsible development of the South Fork Wind facility and offers this comment letter to help advance the environmental evaluation of the project.

The proposed action alternative described in the DEIS entails the construction/installation, operation and maintenance and decommissioning of up to a total of 15 WTGs and inter-array cables, an offshore substation and a transmission cable to the shore. The WTGs would be installed consistent with a uniform east-west and north-south grid (1 × 1–nautical-mile (nm)

spacing between WTGs and diagonal transit lanes at least 0.6 nm wide). According to the DEIS the proposed action will include micrositing of the WTGs and associated cables to help the project avoid sensitive marine habitats and cultural resources. The DEIS also considers the no-action and evaluates the impacts of a Vessel Transit Lane Alternative (Transit Alternative) and a Fisheries Habitat Impact Minimization Alternative (Habitat Alternative). Under the Habitat Alternative, "...BOEM would require DWSF to exclude certain WTGs and associated cable locations, if micrositing is not possible to maintain a uniform east-west and north-south grid of 1 × 1-nm spacing between WTGs with diagonal transit lanes of at least 0.6 nm wide." The DEIS also notes that under this alternative "...BOEM may approve fewer WTG locations than proposed by DWSF."

The DEIS does a good job explaining how the project will results in an expected overall net air quality benefit over the life of the project due to the displacement of fossil fired electricity generating units that would otherwise be used to provide electricity. To achieve these project benefits BOEM and the applicant will need to continue to work to address potential impacts of the project on the complex bottom habitat that characterizes much of the project lease area. We encourage BOEM to continue to coordinate closely with state and federal agencies to avoid impacts through a meaningful comparison of the alternatives and the application of technology, micrositing, and appropriate mitigation. The attachment to this letter provides our comments on the DEIS and our recommendations for the FEIS.

Effective October 22, 2018, the EPA no longer includes ratings in our comment letters. Information about this change and the EPA's continued roles and responsibilities in the review of federal actions can be found on our website at: <https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act>.

EPA appreciates the opportunity to work with BOEM as a cooperating agency during the development and review of the South Fork Wind DEIS. We look forward to working with BOEM in advance of the preparation of the FEIS. If you have any questions, please contact me at 617-918-1025.

Sincerely,



Timothy Timmermann  
Director, Office of Environmental Review



## **EPA Detailed Comments on the South Fork Wind Farm and South Fork Export Cable Project Draft Environmental Impact Statement February 18, 2021**

### **Air Quality**

#### Characterization of Ozone Air Quality

Section 3.3.1.1 Air Quality – Affected Environment (pages H-2 and H-3) The characterization of current ozone air quality in nearby affected areas mischaracterizes existing conditions. For example, the ozone concentrations for monitors in coastal Connecticut are reported as average levels in the 40-50 ppb range. In contrast, the current 8-hour ozone “design values,” a statistic EPA uses when comparing pollutant concentrations to the ambient air quality standards, at these Connecticut monitors are above 70 ppb, more than 20 ppb higher than what is currently included in the discussion to represent existing conditions. Furthermore, the discussion of ozone impacts at these locations mentions only local source emissions; but ozone is a regional pollutant, resulting from the interaction of both local and regional pollutant precursor emissions under certain meteorological conditions.

#### Recommendations:

- We recommend that the FEIS include a description of what the “design value” is for the 2015 8-hour ozone standard, namely the annual fourth-highest daily maximum 8-hour ozone concentration averaged over three years. A design value is a statistic that describes the air quality status of a given location relative to the level of the National Ambient Air Quality Standards (NAAQS). Design values that could be included in the discussion are at: [https://www3.epa.gov/airquality/greenbook/jbca.html#Ozone\\_8-hr.2015.Connecticut](https://www3.epa.gov/airquality/greenbook/jbca.html#Ozone_8-hr.2015.Connecticut)
- We recommend that the FEIS air quality discussion characterize ozone more accurately as a regional pollutant. This is important because ozone, unlike the other criteria pollutants, is not emitted directly into the air by any one source.

#### Updated air quality information available

Section 3.3.1 Air Quality (pages H-2, H-3 & H-7) Updated information is available to characterize the air quality of nearby areas in the affected environment section. Specifically, EPA released air quality design values for 2019 available at <https://www.epa.gov/air-trends/air-quality-design-values>. Similarly, more recent data for emissions inventories are available than the 2014 National Emissions Inventory (NEI) presented in the report. See <https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data>.

#### Recommendations:

- We recommend that the FEIS incorporate the updated information referenced above into the FEIS.

- Additionally, we recommend comparing the maximum impact of air emissions for the Proposed Action Alternative against updated information in the 2017 Emissions Inventory and noting if the location of maximum impact will no longer be expected to be Salem County, New Jersey. Additionally, while the percent increase relative to the county is an informative metric for this alternative, including the emissions in tons per year as part of the discussion on page H-7 as well would be helpful.

#### Documentation of Class I Area Consultation

Section 3.3.1.1 Air Quality – Affected Environment (page H-4) The DEIS indicates that because no Class I areas are within 100 km of the lease area, no visibility or deposition modeling was conducted as part of the analysis. EPA notes that the applicant submitted both an air quality analysis for Class I areas and a visibility analysis for Class II areas near the project site in support of its air quality permit application. In addition, the applicant submitted documentation for its consultations with Federal Land Managers with both the U.S. Forest Service and the U.S. Fish and Wildlife Service regarding proposed air emissions for the project.

#### Recommendation:

- We recommend that the FEIS reference and summarize the findings of the visibility and deposition modeling and agency consultations.

#### General Conformity

EPA notes the mention of general conformity in section 3.3.1.1 on Air Quality in the DEIS. The paragraph ends with the following language “Conformity to a SIP means conformity to a SIP’s purpose of reducing the severity and number of violations of the NAAQS to achieve attainment of such standards. The activities for which BOEM has permitting authority are outside of any non-attainment area and therefore not subject to the requirement to show conformity.”

#### Recommendation:

- EPA recommends adding the words “or maintenance” after “non-attainment” so that the section properly reflects the general conformity requirements at 40 CFR Part 93 Subpart B as applicable to both nonattainment and maintenance areas. Please contact Gary Rennie of EPA’s Air Quality Planning Unit at (617) 918-1525 to discuss this comment further.
- Furthermore, as stated in the DEIS, this language appears to only address general conformity requirements for the subset of project emissions that occur on the OCS lease area. EPA recommends that BOEM address the applicability of general conformity requirements to project emissions that happen outside the bounds of the permitted area such as those emissions that will occur at staging areas, port facilities, or elsewhere so that all emissions caused by this Federal action are addressed as required by 40 CFR Part 93 Subpart B. Please contact John Rogan at 617-918-1645 with any questions regarding general conformity.



### Avoided Emissions

Section 3.3.1.2 Air Quality – Environmental Consequences, Future Activities without the Proposed Action (Table 3.3.1-3 and page H-5) We appreciate the approach outlined in Appendix H to summarizing the avoided emissions of fossil fuel powered energy sources relative to potential offshore wind development. The development of renewable energy generation results in an expected overall net air quality benefit over the life of the projects resulting from the displacement of fossil fired EGUs that would otherwise be used to provide electricity. However, the footnote referring to how the upper and lower limit estimates were calculated for the estimate of future avoided emissions from additional offshore wind projects is unclear. EPA requests more detail on how these projections were modeled to confirm that AVERT was used properly and with the recognition of limitations embedded in the AVERT model, particularly for the different use cases described in the DEIS.

#### Recommendation:

- We recommend that the FEIS clarify how AVERT's inputs were adjusted to suit this application of the tool in the footnote to Table 3.3.1-3 or delete the footnote altogether. EPA recommends that relevant BOEM and EPA staff meet to discuss how the AVERT model was used for the South Fork Wind analysis and how it may be used in an appropriate and documented manner for future offshore wind project reviews. Please contact Colby Tucker at 202-564-6005 or [tucker.williamc@epa.gov](mailto:tucker.williamc@epa.gov) for additional discussions regarding the use of AVERT.

### Health Benefits

Section 3.3.1.2 Air Quality – Environmental Consequences, Future Activities without the Proposed Action (page H-14) We appreciate the approach outlined in Appendix H to summarizing the health benefits associated with avoided emissions from fossil fuel powered energy sources due to the potential offshore wind development. We agree that the development of renewable energy generation results in an expected overall net air quality benefit which translates to quantifiable health benefits. However, the section describing the COBRA model is not clear in describing the model inputs, as the table preceding the relevant text references both annual and lifetime emissions, and therefore what the model outputs describe—annual or lifetime health benefits. EPA requests additional detail on how these projections were made to confirm the COBRA model was properly applied and used to its full capability.

#### Recommendation:

- We recommend that the FEIS clarify the COBRA inputs used and the outputs reported in the analysis described on page H-14. Also, EPA recommends that the FEIS also recognize broader regional or national health impacts associated with air quality changes.
- EPA also recommends that relevant BOEM and EPA staff meet to discuss how the COBRA model was used for the South Fork Wind analysis and how it may be appropriately and effectively applied to future offshore wind project reviews. Please

contact Colby Tucker at 202-564-6005 or [tucker.williamc@epa.gov](mailto:tucker.williamc@epa.gov) for additional discussions regarding the use of COBRA.

### **Comparison of Alternatives**

Although all action alternatives are deemed to result in similar impacts when characterized under broad categories (e.g., "negligible" to "minor"), both the Transit and the Habitat alternatives would result in measurably less construction, maintenance and decommissioning related impacts. (p. 3-76, Section 3.4.2.3). According to the DEIS the Habitat alternative is specifically designed to "reduce impacts to complex fisheries habitats as compared to the Proposed Action." Under this alternative, BOEM would require the applicant to exclude certain WTGs and associated cable locations within complex fisheries habitats should micro-siting not be possible. These exclusions would reduce impacts to hard-bottom substrates (defined as Rock Substrate and/or the four substrate groups: Gravels, Gravel Mixes, Gravelly, and Shell); hard-bottom substrates with epifauna or macroalgae cover; vegetated habitats (e.g., submerged aquatic vegetation [SAV] and tidal wetlands) and/or; reduced impacts associated with reductions in sediment movement, suspension, and deposition.

Despite the lowered impacts inherent to the Habitat alternative by design, the DEIS finds that all alternatives have similar impacts when characterized using the broad DEIS metrics ("negligible," "minor," "moderate," or "major" impacts). The DEIS acknowledges the impact reductions for the Habitat and Transit alternatives but notes that the impacts would not change "substantially." Supporting information in the DEIS to document this conclusion is limited.

#### **Recommendation:**

- We recommend that the FEIS provide more specific information to document and quantify the reduced impacts associated with the Habitat and Transit alternatives. Based on our understanding, both the Habitat and Transit alternatives would avoid impacts by directly reducing the number of WTGs and total amount of inter-array cable proposed for the project. Therefore, the FEIS should provide more specific information to differentiate the impacts between alternatives and better support or revise the general conclusions reached in the DEIS. The FEIS should also explain how "substantial" a reduction in impacts would be necessary to result in a discernible difference in the impacts of the various alternatives, especially given the broad evaluation metrics (e.g., negligible, minor, moderate, major).

### **Impacts from Micro-siting of Wind Turbines and Interconnection Cables**

Micro-siting of wind turbine monopiles is identified in the DEIS as a primary technique for impact avoidance proposed for the Habitat Alternative. Micro-siting efforts will by design rely upon detailed information regarding bottom conditions in the project lease area. However, despite observations EPA and others offered in previous comments on the Administrative DEIS, detailed information is not provided in the DEIS to inform the understanding of the impacts associated with the Habitat alternative. Consequently, it remains difficult to differentiate the impacts associated with the Habitat Alternative from the other two build alternatives. The DEIS



(page 3-34) notes that, “Quantities of benthic habitat types impacted by the Project cannot be calculated until the data analysis is completed during the EFH consultation. Therefore, the DEIS provides a qualitative analysis of general impacts. Quantification of areal extent of impacts to complex habitat will be provided in the FEIS.” Information to understand the differences between the alternatives will be critical for any decisions regarding the selection of a preferred alternative for the project.

#### Recommendations:

- We recommend that the level of information presented in the FEIS support any conclusions presented regarding micro-siting for WTG installations. We also recommend that information be provided to explain why specific WTG locations were maintained and eliminated under the Habitat alternative.
- We also recommend that the discussion of micro-siting of the inter-array cables be significantly enhanced in the FEIS to identify how complex fisheries habitat will be avoided through alternate routing of cables. As is the case for individual turbine micro-siting we recommend that the level of information provided fully support decisions to avoid one cable route over another to avoid impacts.
- We also recommend that the analysis of alternatives fully consider a sub-option that describes the impacts of each build project with the largest commercially available WTG. Recent experience with the Vineyard Wind project demonstrates how the implementation of a larger WTG can reduce the required number of WTG installations and the total length of cable. Given the location of the project on Cox’s Ledge, a recognized high value habitat, we believe such an analysis is a critical element of the impact assessment for the project.

#### **Cable Installation, Protection, Maintenance, Repair and Related Impacts**

We have several recommendations related to the DEIS discussion of the installation, protection, maintenance and impacts of the inter-array and transmission cables for the proposed project.

#### Recommendations:

- Installation of Cable Systems (p. 2-6, Section 2.1.1.3.2). The DEIS notes that “Inter-array cables and the SFEC are not expected to require planned maintenance; however, DWSF would develop a cable inspection program prior to Project commissioning; regular monitoring and inspections would be based on manufacturer-suggested methods.” While we support inspections and regular monitoring, we also recommend that the FEIS provide a more detailed description of the need for and projected frequency of cable maintenance, repair and replacement, and associated impacts. The description should include design measures to be taken to minimize the need for future cable repair or replacement and any associated impacts.
- Cable Protection Measures. While we recognize that concrete mattresses may be more appropriate from an engineering standpoint for certain cable protection applications, we recommend that the FEIS explain which applications will use concrete mattresses, and where alternative cable protection measures such as rock can be used.



- **Amount of Cable to be Protected.** The DEIS references Tables 3.2-2 and 3.2-3 of the COP and notes that concrete matting may be required for up to 5 percent of the SFEC-OCS (7.0 acres), up to 2 percent of the SFEC-NYS (0.2 acres) and at seven locations (0.6 acres) where the SFEC-OCS will cross existing utilities. We recommend that further detail be provided to explain the estimates of the amount of project cable requiring protection, the type of protection needed, and how these estimates were derived.
- We recommend that the FEIS clarify the statement that “cable burial, placement of cable protection, vessel anchoring, temporary cofferdam placement, and construction within the temporary cofferdam at the sea-to-shore transition would temporarily impact approximately 573 acres, or 11.5% of the 4,944-acre SFEC.” (p. 3-17, Section 3.4.2.2.3) The 4,944-acre area appears to be defined by a 330-foot suspended sediment disturbance area around the 61.8-mile combined SFEC offshore and SFEC-NYS corridors. (See Footnote, Table 3.4.2-2, p. 3-16.) The relevance of the percentage area of the described work in comparison to the 330-foot suspended sediment disturbance area is not clear and should be clarified in the FEIS.
- **Habitat Alteration** (p. 3-19, Section 3.4.2.2.3). The DEIS compares the trenching effect of boulder dragging to cable trenching or jet plow impacts. However, these cable trenching techniques include backfill of material into the trench. We recommend that the FEIS more fully explain whether areas of boulder scarring would be backfilled. If backfilling is not proposed, the FEIS should describe how this affects the overall benthic habitat recovery time for impacted areas.
- We recommend that a long-term monitoring plan be developed to measure the recovery rate of benthic habitat from construction related disturbance and to monitor the area for the migration of invasive species into the impacted construction area. The monitoring protocol should also include an action plan to address incomplete recovery or areas affected by invasive species correlated to the construction disturbance.
- We recommend that the FEIS provide a discussion of how the design burial depth for the onshore cables of 4-6 feet was developed, particularly given that the chosen route is within a coastal flood plain. The discussion should also address mitigation of impacts due to flooding risk and required emergency maintenance.
- (p. G-3) The SFEC is being installed in previously disturbed areas, however, impacts on a ROW close to an elementary school have not been assessed in the DEIS. We recommend that they be discussed in the FEIS.
- Section 4.2.1 of the *SFWF – Montauk O&M Facility In-Water Work Assessment of Potential Impacts to Natural Resources from In-Water Work* states that a recent SAV survey has not been completed. The report acknowledges that dredging and pile driving activities have the potential to physically damage eelgrass beds or other aquatic vegetation if present within the in-water work area. Consistent with the requirements of the Clean water Act 404(b)(1) Guidelines, potential impacts to all special aquatic sites must be assessed. EPA recommends a field survey be conducted to identify any potential SAV and mudflat impacts at the Montauk O&M facility.

### **Water Withdrawal from Jet Plowing**

The DEIS discusses water withdrawal associated with jet plowing cable into the seabed (3.4.2.2.3, p. 3-24). According to the DEIS, water would be taken from near the bed surface,



which could entrain eggs and larvae of finfish including flatfish species (e.g., windowpane flounder, winter flounder, witch flounder, yellowtail flounder, and summer flounder), important commercial groundfish species (e.g., Atlantic cod, haddock, Atlantic pollock), and other recreationally and commercially important species (e.g., monkfish, Atlantic herring, Atlantic mackerel, silver hake, Atlantic butterfish). Mortality rates for entrained eggs and larvae are assumed to approach 100%. The DEIS estimates 1,647 cubic yards (cy)/hour of water would be required, and based on a 12-hour work day, 19,764 cy of water would be used per day (though the draft states 16,470 cy/day which would be representative of a 10-hour day). Where 1 cy equals 202 liquid gallons, almost 4 million gallons of water (3,992,328) would be used per day over a 1 to 2 mile distance. According to the DEIS the total distance of cable required for the project, including inter-array and export cables located in federal and state waters, ranges from 70.9 – 83.2 miles, depending on where the cable comes ashore. If almost 4 million gallons of water is required to jet plow 2 miles of cable, then approximately 142 – 166 million gallons would be withdrawn. If the distance covered is closer to 1 mile (instead of two) then the water withdrawal would be doubled. While this volume may seem small compared to the volume of water throughout the entire water column in the geographic analysis area, it is unclear what the magnitude of entrainment loss will be for bottom-tending early life stages (i.e., eggs, larvae, young-of-year juveniles) of fish and invertebrates within the jet plow's area of influence. Entrainment rates will likely vary depending on the time of year and bottom type.

#### Recommendation:

- In order to better understand the direct impact to finfish and invertebrates, particularly those of commercial importance, it would be helpful to include more detail in the FEIS about water withdrawal from the jet plow, including where the intake is located relative to the sea floor, the intake velocity, area (swath) potentially affected by the jet plow intake, and an estimate of possible entrainment loss given the total distance expected to be jet-plowed, time of year jet-plowing will take place, and bottom types expected to be affected. This information would help to support the DEIS conclusion that "...adverse impacts from water withdrawals are anticipated to be negligible to minor." A discussion of mitigation and avoidance strategies for withdrawal induced impacts should also be provided.

#### Supporting Information

As a general observation, despite the potential for significant impacts, the DEIS offers limited project plans and graphics showing the project area, work proposed and generally showing overall project information. Based on our review more could be done to improve access supporting information in the analysis. In some sections the DEIS includes links and the reader must locate supporting information in separate documents that are sometimes linked in their entirety, linked generally to a website that must be reviewed to locate the relevant discussion, or in some cases no link is provided.

#### **Recommendation:**

- While we understand the need to link to supporting information to meet established page limits, we recommend that basic project information graphics be presented directly in the body of EIS and early in the document. We also believe that BOEM could take steps to address the disconnect between the discussion in the body of the EIS and supporting documents such as the COP or Appendices to the EIS. As figures, graphics and tables do not count against page total limits/targets we continue to strongly encourage BOEM to present critical project information in the FEIS in this manner including project plans showing WTG locations, proposed cable routes, limits of work and typical sections for the project above and below the water line and seafloor. This information supports the project narrative and will promote a greater understanding of the project. Also noted in our comments on the Administrative DEIS, we continue to recommend the use of hyperlinks directly to the information being referenced or in the absence of a hyperlink that other references include source document information including page number, etc.

#### **Environmental Justice**

Page 3-145 of the DEIS notes, “In the context of other reasonably foreseeable environmental trends and planned actions, the incremental adverse impacts to environmental justice populations under the Proposed Action resulting from individual IPFs would range from negligible to moderate. Considering all the IPFs together, BOEM anticipates that the overall impacts associated with the Proposed Action when combined with past, present, and reasonably foreseeable activities would result in moderate adverse impacts to low income and minority individuals. BOEM made this call because the overall effect to environmental justice populations would be somewhat disruptive.”

#### **Recommendation:**

- We encourage BOEM to develop mitigation measures to address EJ impacts identified in DEIS. Based on our review we could not identify any specific measures proposed to address the identified environmental justice impacts.

#### **Tribal Coordination and Consultation**

We encourage BOEM to continue tribal coordination and consultation during the development of cultural resource assessments and mitigation measures to address identified impacts from construction or operation of the facility and transmission cable array. We also recommend that the scope of the tribal consultation include any environmental impacts from the proposed activity that may affect tribal interests. We recommend that ongoing and planned future tribal consultation be reported in the FEIS.

#### **Other**

Please note that Figure F-7 in Appendix F (p. F-23) is illegible.